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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,962	06/13/2006	Takafumi Matsumura	056205.57280US	7352

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CROWELL & MORING LLP  
INTELLECTUAL PROPERTY GROUP  
P.O. BOX 14300  
WASHINGTON, DC 20044-4300

EXAMINER
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RUSH, ERIC

ART UNIT	PAPER NUMBER
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2624

MAIL DATE	DELIVERY MODE
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08/31/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/563,962	<b>Applicant(s)</b> MATSUMURA ET AL.	
	<b>Examiner</b> ERIC RUSH	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 21-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is responsive to the amendments and remarks received 27 May 2010. Claims 21 - 24 are currently pending.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 21 - 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagasaka et al. U.S. Patent No. 6,970,234 in view of Rosengaus et al. U.S. Patent No. 7,072,034 and further in view of Fenwick et al. U.S. Publication No. 2002/0124295 A1.
  - With regards to claim 21, Nagasaka et al. teach a personal identification device, (Nagasaka et al., Abstract) comprising: a light source for illuminating a target to be identified with light; (Nagasaka et al., Abstract, Column 4 Lines 4 - 27) and a group of light receiving elements formed by a plurality of light receiving elements for receiving light from said target and arranged on a plane, (Nagasaka et al., Column 4 Lines 4 - 27) output of said group of light receiving elements producing living body feature information of said target so that personal identification is done using the living body feature information of said target. (Nagasaka et al., Column 5

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Lines 47 - 58, Column 7 Lines 33 - 43) Nagasaka et al. fail to teach a lens array arranged at a side of light receiving faces of said group of light receiving elements for correcting for partial light that is scattered from an intersection of a line perpendicular to a light receiving face of each light receiving element and said target; wherein each lens of said lens array and each light receiving element of said group of light receiving elements correspond 1 to 1; and wherein said group of light receiving elements and said lens array are unified. Pertaining to analogous art, Rosengaus et al. teach a lens array arranged at a side of light receiving faces of said group of light receiving elements for correcting for partial light that is scattered from an intersection of a line perpendicular to a light receiving face of each light receiving element and said target; (Rosengaus et al., Fig. 6, Column 14 Lines 10 - 61, Column 15 Line 56 - Column 16 Line 27) and wherein said group of light receiving elements and said lens array are unified. (Rosengaus et al., Fig. 6, Column 15 Line 56 - Column 16 Line 27) Rosengaus et al. fail to teach wherein each lens of said lens array and each light receiving element of said group of light receiving elements correspond 1 to 1. Pertaining to analogous art, Fenwick et al. teach wherein each lens of said lens array and each light receiving element of said group of light receiving elements correspond 1 to 1. (Fenwick et al., Fig. 5 Elements 350 and 340, Page 4 Paragraph 0072) It would have been obvious to one of ordinary skill in the art at the time of the invention to

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modify the teachings of Nagasaka et al. with the teachings of Rosengaus et al. This modification would have been prompted in order to improve the base device of Nagasaka et al. The known technique of utilizing a lens array to capture and minimize scattered light as taught by Rosengaus et al. would enhance the base device by allowing for a higher quality image to be produced. Rosengaus et al. teach that a lens array is able to collect more light than traditional lenses, aids in transmitting collected light at substantially the same angle as it was collected, and reduces optical artifacts related to a position of a target region being imaged. This combination could be completed according to well known techniques in the art and would likely yield predictable results, in that the lens array of Rosengaus et al. would enhance the image quality and light collection capabilities of Nagasaka et al. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined teachings of Nagasaka et al. in view of Rosengaus et al. with the teachings of Fenwick et al. This modification would have been prompted in order to enhance the combined base device of Nagasaka et al. in view of Rosengaus et al. The known technique of matching a single lens of a lens array with a single light receiving element of a light receiving elements as taught by Fenwick et al. would enhance the combined base by further enhancing image quality. The 1 to 1 correspondence would improve the resolution by directing the captured light from each lens to a

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single light receiving element instead of dispersing it over a plurality of light receiving elements. This combination could be completed according to well known techniques in the art and would likely yield predictable results, in that the 1 to 1 lens to light receiving element correspondence would enhance the image quality which is critical in any type personal identification/recognition/authentication using image comparison.

- With regards to claim 22, Nagasaka et al. in view of Rosengaus et al. and further in view of Fenwick et al. teach the personal identification device according to Claim 21, wherein the living body feature information is a pattern of a vein of a living body. (Nagasaka et al., Column 5 Lines 47 - 58, Column 7 Lines 33 - 43)
- With regards to claim 23, Nagasaka et al. in view of Rosengaus et al. and further in view of Fenwick et al. teach the personal identification device according to Claim 22, wherein said target is a finger of a human being. (Nagasaka et al., Column 5 Lines 47 - 58, Column 7 Lines 33 - 43)
- With regards to claim 24, Nagasaka et al. in view of Rosengaus et al. and further in view of Fenwick et al. teach the personal identification device according to Claim 21. Nagasaka et al. is silent to wherein an interval between two adjacent light receiving elements in said group of light

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receiving elements is from 0.2mm to 0.5mm. The Examiner takes official notice of the fact that an interval between two adjacent light receiving elements being from 0.2mm to 0.5mm is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined teachings of Nagasaka et al. in view of Rosengaus et al. and further in view of Fenwick et al. to space two adjacent light receiving elements from 0.2mm to 0.5mm. This modification would have been prompted in order to generate an image with appropriate resolution so that the image comparison step can be carried out effectively. This modification could be completed according to known techniques in the art and would likely yield predictable results.

[The Examiner notes that claim 24 appears to correspond to previously presented but now canceled claim 13 except that the interval changed from 0.02mm - 0.5mm (claim 13) to 0.2mm - 0.5mm. (claim 24)]

### ***Response to Arguments***

4. Applicant's arguments with respect to claim 21 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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- Antonelli et al. U.S. Patent No. 6,259,108; which is directed to a fingerprint imaging apparatus utilizing a GRIN rod lens array in a 1 to 1 ratio with an imager.
- Higuchi U.S. Patent No. 7,366,331; which is directed to a fingerprint input device.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC RUSH whose telephone number is (571)270-3017. The examiner can normally be reached on 7:30AM - 5:00PM (EST).



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew C Bella/  
Supervisory Patent Examiner, Art Unit 2624

/E. R./  
Examiner, Art Unit 2624